

NEW SOLAR HOMES PARTNERSHIP TRAINING WORKSHOP

California Energy Commission Sacramento, California November 7, 2008



Workshop Purpose

- Provide assistance to solar retailers and installers in applying to the NSHP
 - Application Process
 - Required Documents
 - Web Tool
- Any comments or suggestions on improving the NSHP program can be sent to the California Energy Commission's Renewable Energy Office



New Solar Homes Partnership Program Goals

- Establish a self-sufficient solar industry where solar energy systems are a mainstream viable option for homes in 10 years
- Achieve 400 megawatts of installed solar electric capacity in California by the end of 2016
- Place solar energy systems on 50% of new homes by end of program
- Builders of developments of 50+ homes with approved maps must offer solar as an option starting 1/1/2011



California Solar Initiative

C's

CPUC's
California Solar
Initiative

1,940 MW

\$2,167 M

CEC's New Solar Homes Partnership

> **400 MW \$400 M**

Publicly-Owned
Utility Solar
Programs

700 MW

\$784 M





New Solar Homes Partnership Program Emphasis

- New residential construction ONLY
- Energy efficiency
- High performing solar installations



Incentive Structure

- One-time, upfront incentive
- Incentives decline as megawatt targets are achieved
 - The Energy Commission provides a 30-day notification prior to an incentive level drop
- Incentives decline to zero at the end of the program



Expected Performance-Based Incentive

- The incentive amount is based on a calculation which compares the expected performance of the proposed system to a reference system
- The incentive amount is calculated using the CEC-PV Calculator



Incentive Levels

Solar As Standard Feature Incentive - \$2.60/watt

- Projects with six or more units where solar is installed on 50 percent or more of the units.
- 36-month reservation period

Base Incentive - \$2.50/watt

- Custom homes
- Small developments
- Developments offering solar as an option
- Developments where solar is installed on less than 50 percent of the units
- Common areas
- 18-month reservation period



Incentive Levels – Affordable Housing

- \$3.50/watt for residential unit installations
- \$3.30/watt for common area installations
- 36-month reservation period
- Incentives decline over time as affordable housing megawatt targets are achieved (Decline schedule is separate from market-rate NSHP program)
- No specific set-aside of funding for affordable housing
- Additional requirements must be met in order to receive the higher incentive levels.

^{*}Eligible affordable housing projects are defined as those where at least 20 percent of the project units are reserved for extremely low, very low, lower or moderate income households for a period of at least 45 years. Income definitions can be 9 found in Sections 50052.5, 50053, and 50199.4 of the Health and Safety Code.



New Solar Homes Partnership Program Eligibility

- Project located in one of four investorowned electric service territories (PG&E, SCE, SDG&E, BVES)
- New residential construction project (Single-family, multifamily, including mixed-use buildings where 10 percent or less of the building space is non-residential; system additions are not eligible)
- Solar energy system will be at least 1 kW AC or larger and interconnected with the utility grid



New Solar Homes Partnership Program Eligibility

- •The electricity from the system will offset the end-use customer's electric load.
- The system will be composed of new certified components from the Energy Commission's Lists of Eligible Equipment and will be covered by a 10-year warranty.



New Solar Homes Partnership Program Eligibility

- Contractors installing solar systems must have a California State A, B, C-10 or C-46 license. Solar systems can also be selfinstalled.
- Systems and energy efficiency measures are third-party verified.
- Project meets a minimum of 15 percent beyond current Building Energy Efficiency Standards (Title 24)



PG&E's Energy Efficiency Program & Integration with NSHP



Residential New Construction Program

•Eligible customers

 Builders & developers of new residential custom, production, multifamily and affordable housing homes and projects; custom home owners

Eligible projects

 Within the service territory of and receive retail electric service from PG&E

Requirements

- Tier 1 -15% better than current T-24 Building Standards; Energy Star appliances
- Tier 2 35% better than current T-24 Building Standards, 40% reduction in cooling, Energy Star appliances
- Positive gas and electric savings

Rebates

- Single-Family = \$400-\$2,000
- Multifamily = \$150-\$200



Why Energy Efficiency?

- •In line with the State's Energy Action Plan
 - Conservation
 - Energy Efficiency
 - Renewables
 - Demand Response
- •Energy efficiency as a resource
 - A kilowatt-hour saved from energy efficiency does just as much work as a kilowatt-hour from a power plant
- •An energy efficient home requires a smaller PV system



Energy Efficiency and Solar Integration

PG&E's EE Program

Tier 1

- 15% better than current T-24
- ENERGY STAR® appliances
- Single-family (\$400/\$500);
 Multifamily (\$150/\$200)

• Tier 2

- 35% better than current T-24
- ENERGY STAR appliances
- 40% reduction in cooling
- Single-family (\$2,000)

NSHP EE Requirements

• Tier 1

- 15% better than current T-24
- ENERGY STAR appliances

Tier 2

- 35% better than current T-24
- ENERGY STAR appliances
- 40% reduction in cooling



Energy Efficiency and Solar Integration

- •Builders encouraged to participate in IOU's EE RNC programs
 - Builder benefits
 - RNC program aligned with NSHP energy efficiency Tiers
 - Incentives for energy efficiency & solar
 - Ease of access Similar EE program requirements
 - Reduced paperwork EE supporting documentation waived for NSHP when approved in IOUs EE RNC program
 - Differentiation from competition
 - Customer Benefits
 - Consumption Reduced energy usage
 - Comfort Energy efficient solar home
 - Environment Reduced carbon foot print



Before You Apply

- •Visit the Go Solar California website (www.gosolarcalifornia.org) or PG&E's website (www.pge.com) – Solar Energy - NSHP
- •Establish electric service from PG&E
- Submit application for Net Energy Metering
- •Participate in the Energy Efficiency Program for additional incentives (www.pge.com/newhomes)
- •Review NSHP Guidebook



Apply Online

- www.newsolarhomes.org
 - Submit Applications
 - Attach Documents
 - Check Status



Homepage

instructions



At the direction of Governor Schwarzenegger, the California Solar Initiative was approved by the California Public Utilities Commission (CPUC) on January 12, 2006. The initiative creates a \$3.3 billion ten-year program to put solar on a million roofs in the state.

This program changes the way the state's renewable energy incentives and rebates will be managed. The CPUC will oversee a program to provide incentives for existing residential

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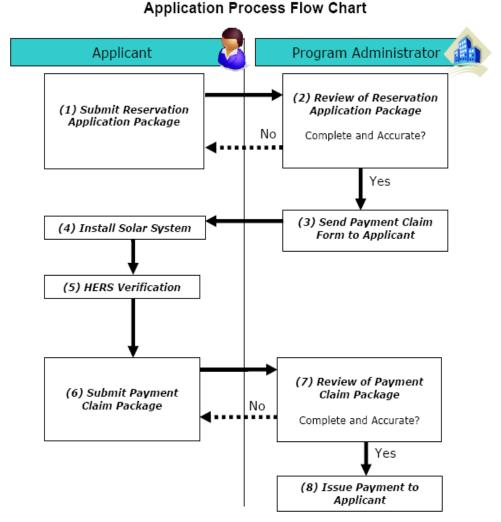
Application Process Overview





Custom Homes, Common Areas, Small Developments

- 2-step application process
- •18-month reservation
- No checkpoints required

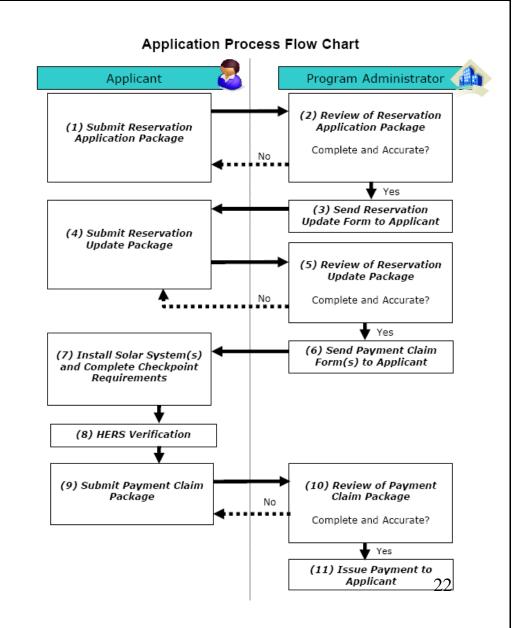






Solar as Standard Feature and Affordable Housing Projects

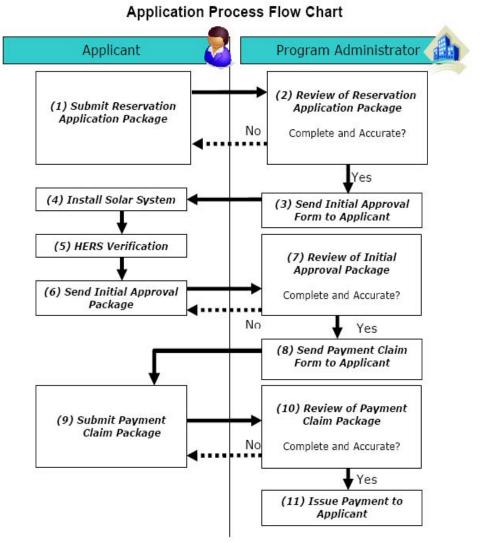
- Potentially a 3-step application process
- Checkpoint required
- 36-month reservation
- Some steps can be bypassed to become a 2step application process if requirements are met in reservation application package





Developments Offering Solar as an Option

- 3-step application process
- 18-month reservation





Reservation Process - Detailed

- •PG&E receives NSHP application package online or hard copy
- •PG&E reviews application for completeness
 - Communicates with applicant if missing information
 - Applicant provides missing information application incomplete until missing information provided
 - Sends to Plan Check (if not already approved in RNC) for energy efficiency review
 - Plan check reviews energy efficiency criteria
 - Plan check communicates with applicant if missing information
 - Applicant provides missing information application incomplete until missing information provided
 - Plan check approves energy efficiency
- •PG&E sends approved application to CEC for final approval
- •CEC approves project
- •NSHP 2 available to applicant



CEC-PV Calculator Demonstration



Application and Payment Documents



Reservation Documents – Market Rate Housing

- •NSHP 1
- •EPBI Documentation
 - One CF-1R-PV per system type
 - Electronic input file (.emf and .her) per system type
- •Equipment Purchase Agreement & Installation Contract
- Build-Out Schedule
- •Payee Data Record (STD-204)

Energy Efficiency Documentation

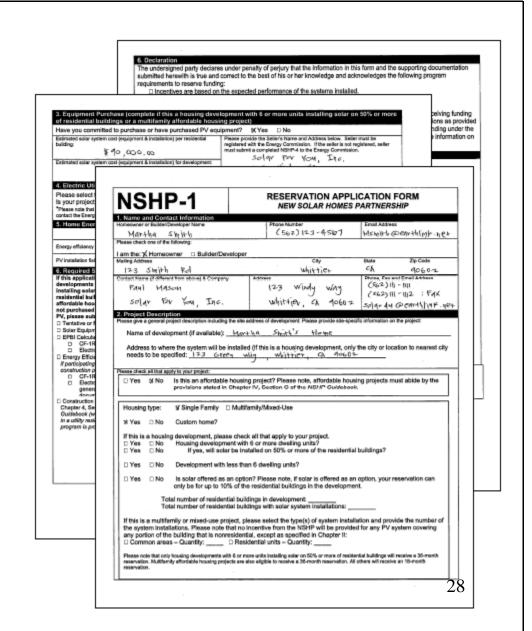
- •CF-1R one per plan type
- •Electronic Input file (.bld or .mp7) per plan type
- •Construction plan set
 - Floor plan with elevations, mechanical, plumbing and electrical sheets
 - Final Subdivision Map
 - Site plan with North Arrow
 - Building Permit
- •List of lots and addresses should match the NSHP-1 and what's being applied for (production homes; may be required)
- •Manufacturer equipment specification sheets including Energy Star appliances for each plan (may be required)





Reservation Application Form (NSHP-1)

- ✓ All fields on the form are completed
- ✓ Form signed by:
 - ✓ Homeowner or Builder/Developer
 - ✓ Solar Retailer





Building Permit or Final Subdivision Map

✓ Applicant information and permit address/lot numbers match that on the NSHP-1

✓ Permit is for the construction of a new home and not more than 3-years old

BUILDING PERMIT

COUNTY PLANNING AND BUILDING INSPECTION DEPARTMENT (562)111-111

PERMIT NO.: 000100 ISSUED: 07/19/07

JOB ADDRESS: 123 Green Way, Whittier, CA 90602

OWNER: Martha Smith 123 Smith Rd Whittier, CA 90602

CONTRACTOR: John Ashley

Ashley Construction 15 Ohio Way Whittier, CA 90602

JOB DESCRIPTION: Construction of Single Family Dwelling

Mechanical	Date	
Floor Duets		
Kitchen Fan Duct		
Bath Fan Duct		
Furnace		
Air Conditioning		
Electrical	Date	
Below Stab Electrical	-	
Below Floor Electrical		
Above Floor Electrical		
Rough Electrical		
Plumbing	Date	
Water Piping		
Gas Pipe		
Shower Pan		
Sewer Line Connection		
Water Line Connection		
FINAL	Date	
Mechanical		
Electrical		
Plumbing		



Certificate of Compliance Form: NSHP PV (CF-1R-PV)

- ✓ The Calculator and equipment libraries used are certified at the time the reservation application is submitted
- ✓One CF-1R-PV per system type
 - ✓ Hard copy
 - ✓ Electronic input files (.emf and .her)
- ✓ Date on the hard copy matches the date that the .HER and .emf files were created
- ✓ Project address matches that on the NSHP-1
- ✓Climate zone matches that on the CF-1R
- ✓ The correct housing type is selected
- ✓ Equipment matches that on the equipment purchase agreement
- ✓The form is signed by:
 - ✓ Homeowner or builder/developer
 - ✓ Documentation author

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Sunnyside He Project Title		
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Sunnyside Hemes Project Title	Date	
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City/State/ZIP	PV	. [
Laguna Beach	B Com	١ - [
City Used in Coloulator Run	Climate Zone	,
Number of Systems in Reservation App	Seation with Identical CF-IR-PV entraintions: 150	, [
Project Address List		'
Lots 1-150		
		Ē.
Housing Type:	Market Rate Housing with Solar as Standard	.
PV SYSTEM INFORMATION		-
Module Manufacturer and Model:	Powerlight PL-PLT-68L-BLX-U	1
Inverter Manufacturer and Model:	Xantrex Technology, Inc. GT2.5-NA-DS-240	. 1
Investor Manufacturer and Model: Series Modules in each String: 36	Xuntrex Technology, Inc. GT25-NA-DS-240 Parallel Stringe: 1 Total Modules: 36	1
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Build-Out Schedule

✓ The following approximate dates are written on the solar retailer/installer's company letterhead:

- ■Installation Start Date
- ■Installation Finish Date
- Interconnection Date

Ashley Construction 15 Ohio Way Whittier, CA 90602

Build-Out Schedul

Installation Start Date: 10/24/07 Installation Finish Date: 11/08/07 Ready for Operation: 11/10/07



Payee Data Record (STD-204)

✓ The information on the STD-204 matches the information of the designated payee on the NSHP-1.

✓ The form is signed by the payee.

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System Size Justification

✓ Written and signed by a Certified Energy Plans Examiner (CEPE), architect, engineer, or a C-10 licensed contractor

✓ The document estimates the electrical needs for the project and how the solar system's generation will offset the needs. 08/02/07

California Energy Commission NSHP, Reservation Application 1516 Ninth Street, MS-45 Sacramento, CA95814-5512

Dear Sir or Madam,

I am writing to you regarding the 56-module, 9.8-kW, grid-tied photovoltaic system to be installed at 123 Green Way, Whittier, CA 93291. The system electricity production is expected to be 15,708 kWh per year. This will cover 92% of the expected energy consumption.

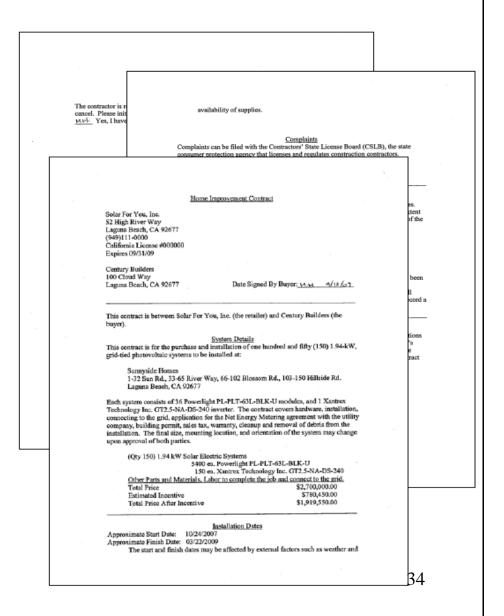
Sincerely,

cyfun Ashley, Contractor 15 Okio Way Whittier, CA90602 (302)011-0111 California License #000000 C-10 Licensed Expires 08/31/08



Equipment Purchase Agreement

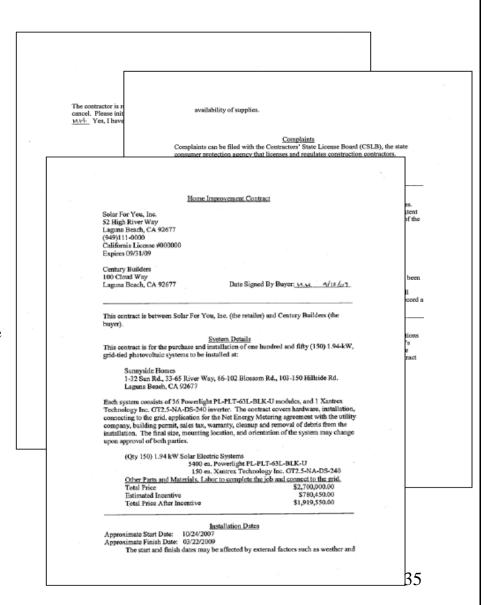
- ✓ The document includes information on the following:
- •A list of physical addresses where the system installations are located
- Quantity, make and model number of the modules, inverters and meters to be installed at each address
- ■Total system cost
- ✓ The equipment listed is consistent with that on the CF-1R-PV.
- ✓ The document is signed by the applicant and the solar retailer.
- ✓ Solar retailer is registered with the Energy Commission





Installation Contract

- ✓ The document includes information on the following:
- •The name, address and license number of the company performing the system installations,
- •The site addresses of the system installations,
- •Description of work that will be performed,
- •Total agreed price to install the system,
- •Payment terms,
- •The approximate start and end dates of the job,
- •A cancellation notice,
- •Contact information of California State License Board,
- •Any legal notices.
- •The physical address matches with that on the NSHP-1, CF-1R-PV and building permit.
- ✓ The document is signed by the applicant and the solar installer.
- ✓ Contractor should be CSLB licensed A, B, C-10, or C-46





Energy Efficiency Documentation

- One CF-1R per plan type
- Electronic input file (.bld or .mp7) per plan type
- Construction plan set
 - ☐ Floor plan with elevations, mechanical, plumbing and electrical sheets
 - ☐ Final Subdivision Map
 - ☐ Site plan with North Arrow
 - Building Permit
- List of lots and addresses should match the NSHP-1 and what's being applied for (production homes; may be required)
- Manufacturer equipment specification sheets including Energy Star appliances for each plan (may be required)



Certificate of Compliance (CF-1R)

- ✓ The CF-1R is created using compliance software for the current Building Standards.
- ✓One CF-1R per plan type
- ✓ Electronic input files per plan
 - ✓.mp7 or .bld
- ✓ Completed and signed by a CEPE
- ✓ The information on the CF-1R is consistent with the construction planset submitted.
- ✓ The CF-1R states that the project is at a minimum 15 percent beyond current Building Standards.
- ✓ Project address matches that on the NSHP-1.
- ✓Climate zone matches that on the CF-1R-PV.

CERTIFICATE OF COMPLIAN	CE: RESIDENTIAL	COMPUTER	METHOD	CF-1R	Page 1
Project Title	APN 102-221-53			te05/18/08	17:04:04
Project Address			******		
Documentation Author	Soquel Lynette Sergius	CEPE	*v7.10*	Building Pe	rmit#
	AREA Title 24 P.O. Box 4014 Felton, CA 950			Plan Check	/ Date
	831-335-3656	110		Field Check	/ Date
Climate Zone	03	1	3 3		
Compliance Method	MICROPAS7 v7.10	for 200	5 Standards	by Enercomp,	Inc.
MICROPAS7 v7.10	File-LS6218V Wt	:h-CTZ035	05 Program	-FORM CF-1R	
User#-Mi	P1308 User-AREA	Title 2	4 Run-PV r	ebate	

=	MICROPAS7	ENERGY USE	SUMMARY		=
=	******				=
=	Energy Use	Standard	Proposed	Compliance	=
=	(kTDV/sf-yr)	Design	Design	Margin	=
=					=
=	Space Heating	16.15	10.72	5.43	=
=	Space Cooling	7.54	4.17	3.37	=
=	Water Heating	10.88	4.22	6.66	=
=	The second secon				=
=	Total	34.57	19.11	15.46	=
=					=
=	*** Building complies *** HERS Verification	with Compu	iter Performa	nce ***	=
=	*** HERS Verification	n Required	for Complian	ce ***	=



Reservation Documents – Market Rate Housing

- •NSHP 1
- •EPBI Documentation
 - One CF-1R-PV per system type
 - Electronic input files (.emf and .her) per system type
- •Equipment Purchase Agreement & Installation Contract
- Build-Out Schedule
- •Payee Data Record (STD-204)

- •One CF-1R per plan type
- •Electronic input file (.bld or .mp7) per plan type
- •Construction Plan set
 - Floor plan with elevations, mechanical, plumbing and electrical sheets
 - Final Subdivision Map
 - Site plan with North Arrow
 - Building Permit
- •List of lots and addresses should match the NSHP-1 and what's being applied for (production homes; may be required)
- •Manufacturer equipment specification sheets including Energy Star appliances for each plan (may be required)



Reservation Documents – Market Rate Housing (if participating in EE Program)

- •NSHP 1
- •EPBI Documentation
 - One CF-1R-PV per system type
 - Electronic input files (.emf and .her) per system type
- •Equipment Purchase Agreement & Installation Contract
- Build-Out Schedule
- •Payee Data Record (STD-204)

- •One CF-1R per plan type
- •Electronic input file (.bld or .mp7) per plan type
- •Construction plan set
 - Floor plan with elevations, mechanical, plumbing and electrical sheets
 - Final Subdivision Map
 - Site plan with North Arrow
 - Building Permit
- •List of lots and addresses should match the NSHP-1 and what's being applied for (production homes; may be required)
- •Manufacturer equipment specification sheets including Energy Star appliances for each plan (may be required)



Reservation Documents – Affordable Housing

- •NSHP 1
- •EPBI Documentation
 - One CF-1R-PV per system type
 - Electronic input files (.emf and .her) per system type
- •Equipment Purchase Agreement & Installation Contract
- Build-Out Schedule
- •Payee Data Record (STD-204)
- •Regulatory Agreement
- •Maintenance and Monitoring Plan
- •Individually Metered

- •One CF-1R per plan type
- •Electronic input file (.bld or .mp7) per plan type
- Construction Plan set
 - Floor plan with elevations, mechanical, plumbing and electrical sheets
 - Final Subdivision Map
 - Site plan with North Arrow
 - Building Permit
- •List of lots and addresses should match the NSHP-1 and what's being applied for (production homes; may be required)
- •Manufacturer equipment specification sheets including Energy Star appliances for each plan (may be required)



Specific to Affordable Housing

•Regulatory Agreement

The regulatory agreement should include the following information:

- ✓ Identify the project
- ✓ Identify the number of residential units in the project subject to the affordability requirements
- ✓ Identify the applicable affordability requirements for these residential units
- ✓ Expressly limit residency in the affordable units to persons with low income as identified by the Health and Safety codes
- •Maintenance and Monitoring Plan

The plan should include activities such as:

- ✓ Cleaning schedule for the PV array
- ✓ Periodic checking of all electrical connections
- ✓ Checking the invertors for instantaneous power
- ✓ Checking for any tree/plant growth or other obstructions
- •Individually Metered



Reservation Documents – Affordable Housing (if participating in EE program)

- •NSHP 1
- •EPBI Documentation
 - One CF-1R-PV per system type
 - Electronic input files (.emf and .her) per system type
- •Equipment Purchase Agreement & Installation Contract
- •Build-Out Schedule
- •Payee Data Record (STD-204)
- •Regulatory Agreement
- •Maintenance and Monitoring Plan
- •Individually Metered

- •One CF-1R per plan type
- •Electronic input file (.bld or .mp7) per plan type
- Construction Plan set
 - Floor plan with elevations, mechanical, plumbing and electrical sheets
 - Final Subdivision Map
 - Site plan with North Arrow
 - Building Permit
- •List of lots and addresses should match the NSHP-1 and what's being applied for (production homes; may be required)
- •Manufacturer equipment specification sheets including Energy Star appliances for each plan (may be required)



Prior to HERS Verification

Installation Certificate for Energy Efficiency Measures (CF-6R)

Installation confidence (CF-SF) we required for each and every dwelling unit. When the installation of measures that require fluid werdinates and diagnostic working is complete, the builder or the builder's rule connected that complete diagnostic sorting and the procedure specified in this section. What the installation is complete, the builder's rule connected that complete the CF-SF distallation Constitution, the builder of the builder's reference to the builder of the builder's reference to the builder of the builder give the restrict by the building department. The builder distallation and diagnostic territories, per Section 10-103(b). WATER HEATING SYSTEMS: **Book Constitution** **Book Constitut			CERTIF	ICATE					of 12) C	F-6R
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Installation Certificate for the Solar System (CF-6R-PV)

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			tant all a	_		- 08	141/42	
							,	erance value.
INSTALLATION (2) CF-6R-PV		Feil
123	areen Way 1	Nhitier	CA 9060		08/0	1 [07		Fail
				Date]	Fail
Installation certificates installer must perform to the Installation Certific pathfinder diagram(s)) specifications.	he field verification a see and any other p	nd diagnos roof of in	tic testing procedures, stallation details (suc	The I	PV installer shall hotographs, prod	also provide a copy or act involces, or sola	t r	tassed on
PHOTOVOLTAIC	SYSTEM:						-	or other friend by
Equipment Type	c	EC Certified	Manufacturer Name and	Model	Number	✓ Indicate Pass/Fail		
Motor (Must be built into inverter of all gible under 55 HP	lissis Integ	yrated	with invert	er		E Pass □ Fed]	imed sizes,
Inverter (Must be some as listed on C)	LIRAPUS Xantrex	Tehnolog	gy Inc. GT5.0-1	4A-10	-240/208 (240	() Of Pass D Fail		"
PV Modules: (Must be some as listed on C	Sawy	o Eleci	mic HIP-1951			E Pass □ Fail	1	-
Fack-nours DB	Number o	e 7	Number of strings in Parallel	1	Total sumber of 2.8 Weeklas	EFPass □ Pail]	
						Value within tolerance	,	
Installation Specifi		Me	fuel used to determine value		Value measured	of CF-1R-PV value.	-	asure.
The azimoth of the obspress from North)			compass		180*	EFPass □ Fail		
2 The roof pixh/tilt (RiscRes / during fe	en la reicontal)		protractor		28*	□ Pass □ Feil		
(fl. from ground)	ght of the installation.	Visual	ly confirmed:on	estur	- one story	■Pass □ Fail		
4 The standoff height (EBPV, entro)	at of the installation.	+	ape measur	e	4 inches	E Pass □ Fail		
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Performance Speci	fications		Method used to-determine	value	Value measured	Value within tolerance of CF-LR-PV value	1	, por remains
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Expected output i	rom Fald Verification Ta	in (FVT)*	FVT		3143	-		
7 (W)			er or other performan	ce	3145		-	
g display is equal to	or higher than the vo fistion and ambient to	lac on the l	IVT for the system but	ard	3157	Pass Pail		
* FNT is generated by the C1	C PV Calculator and is un	que for cach a	ooks. The PVT for this as	escm in o	ne the contraposaling (25-13kPV		
								ny 2007



Payment Claim Documents

Market Rate

- •NSHP 2 Payment Claim Form
- •Final Invoice
- •NSHP 3 10 Year Warranty Form
- •Certificate of Installation
 - CF-4R one per home
 - CF-4R-PV one per system
- •Final Solar Building Permit
- •Permission to Operate Letter

Affordable Housing

- •NSHP 2 Payment Claim Form
- •Final Invoice
- •NSHP 3 10 Year Warranty Form
- Certificate of Installation
 - CF-4R one per home
 - CF-4R-PV one per system
- •Final Solar Building Permit
- •Permission to Operate Letter



Payment Claim Form (NSHP-2)

✓ Original signatures from the "builder" and the retailer, and from the original designated payee, if the payment is now being reassigned.

✓ All system details are noted and the final contact information of the solar retailer and installer provided.

	Print Name Mork H		PrintName	Selver Paul Mason	
	PIELPOIN		Pilithalia	on	
NSHP-2		L FOR SOLAR A		Documents to Attach:	7
EPBI annual TDV:Rebate @	Project		ride Homes or Way		
Reservation Asproval Date: 6.9/3 1. Confirmation of Reservation Am A. Payment Claim Form for Solar	t4 / 07				
Century Builder: has been grade will expire on _29/24/2016 . The 3.5.6.3 (kWh peryear). The p	ed a reservation of \$ 5159 for e system is being installed at 33 syment will be made to booldate.	s 2.4 kWeeler Tryer hidy a Cappa cast	system. The reservation nd is expected to produce		
The solar system must be completed must be postmarked by the expiration be installed at the installation address B. Intial Association Solar as D	and the daim submitted with the a; date or the reservation will expire, and sold to the above.	poropriate documentation	on by the seadine, Claims		
This is to confirm that your application funding reserved for your project is application NSHP-1, dated	to make financial intentions the	based on the informatio	m approved. The amount on you provided in your	e, hereby assign entity and	
Please complete Sections 2 and 3 on residential building with solar installac amount of financial incentives you uit	i within 18 months, starting on the	ed ecoporting document date stated above. Som	fetien to two Farm for east to changes may affect the	submitted for	
Once this form and all supporting die NSMP-2 Reballe Payment Claim Form 2. Major System Equipment of Elec- Quantity M	n with residential building specific is	dormetion incorporated	Cost	.	
36 Farrie	rtight PL-F	LT-63L-BLK-U 15-NA-DS-240		g with the payment,	
3. System Details Tidal System Price: 41	B ₁ a D O . O D	Lot Number:		time prior to the Renewable	
EPBI annual TDV:		Darmit Street	(31/08		
Fina Equipment belor harno and Address.		Tintale Name and A30'66		ng sclare under	
Solar For You. S2 High River Laguna Brach	Hay	30 lar For You 52 High Rive Laguna Brad	Hay	nd conditions of stated below, moded to the d to the	
			-	t. ceiving funding Commission's	
				s specified in the ISHP to with the NSHP payment daim	
				eroy Commission	



Proof of Payment of Final Invoices

✓The invoice should display the total system cost (equipment and labor) and should note that the system has been paid in full.

INVOICE #12345 Solar For You, Inc. 52 High River Way Laguna Beach, CA 92617 PAID IN FULL Paul Haron 1/21/61 Bill To: Century Builders 100 Cloud Way Laguna Beach, CA 92617 Installation of one hundred and fifty (150) 1.94 kW Solar Electric Systems at Sunnyside Homes. (1-32 Sun Rd., 33-65 River Way, 66-102 Blossom Rd., 103-150 Hillside Rd., Laguna Beach, CA 92677) 5400 ca. Powerlight PL-PLT-63L-BLK-U 150 ea. Xantrex Technology Inc. GT2.5-NA-DS-249 \$2,700,000.00 \$1000.00 Less Customer Down Payment Less CEC Incentive \$180,450.00 Remairing Balance



Ten-Year Warranty Form (NSHP-3)

- ✓ The equipment described matches that on the final invoice and NSHP-2.
- ✓ The project address matches that on the NSHP-2 and the permission to interconnect letter.
- ✓ The type of warranty coverage is selected.
- ✓ If only system installation is covered, manufacturer warranties stating a minimum ten-year coverage period for the equipment must be provided.
- ✓ The form contains the contact information of the warrantor and is signed.

NSHP-3	TEN-YEAR WARRANTY FORM NEW SOLAR HOMES PARTNERSHIP
Description: 5400 trweright ru Located at: 1-22 sun p.d. 22	445: 150 ing 1.44 kW renewable energy electric generating system - TET-\$14 - BW 'M. 150 YARTER 650: 5-MA-95-64 - LS Dive Way \$6.000 Bloom Bl, 100-100 Hill Side - K 9.4577
This ten yearwarranty is subject to the t	erms below (check one of the boxes):
full cost of diagnosis, repair and reg customer. This warranty also cover	ystem <u>AND</u> the system's installation. Said warranter shall beer the lacement of any system or system component at no cost to the site generating couprient against bearcown or degrees on in count from the originally rated output PTC rating for modules, set); or
any system or system component,	iantor shall bear the full cost of diagnosis, repair and replacement of exclusive of the manufacturer's coverage. (Copies of ten-year warranty reponents (i.e., solar modules, wind turbines, etc. and inverter-MUST.
General Terms	
location during the warranty period. For owner," and 'purchase' include a lessee	these and to any subsequent purchasers or owners at the same the purpose of this warranty, the terms "purchaser," "subsequent , assignee of a lease, and a lease transaction. This warranty is a of completion of the system installation).
Exclusions	
the system in accordance with the p Damage, mailunction, or degradation or service not provided or authorizer Damage mailunction, or degradation	e of electrical output caused by failure to properly operate or maintain erfield instructions provided with the system. In of electrical output caused by any repair or replacement using a part tim writing by the warmantor. In the electrical output resulting from purchaser or time party abuse, adilgence or wandsism, or from earthquake, file. flood, or other acts of
Obtaining Warranty Service	
Costact the following varrantor for servi	to or instructions:
Name:	Phone: (*14×1) 1/1 - 00×00
Company: 3=14+ 10+ 164 2	
Address: St. High Plants who	togress beach, ch. 47617
	Hesen Date: 3/26 (c/9)



Final Solar Permit Sign-Off

✓ The project address matches that of the NSHP-2.

✓ The document shows that the building official approves the installation of the solar system.

BUILDING PERMIT

COUNTY PLANNING AND BUILDING INSPECTION DEPARTMENT (562)111-1111

PERMIT NO.: 000100

ISSUED: 07/19/07

JOB ADDRESS: 123 Green Way, Whittier, CA 90602

OWNER: Martha Smith 123 Smith Rd

Whittier, CA 90602

CONTRACTOR: John Ashley

Ashley Construction 15 Ohio Way Whittier, CA 90602

JOB DESCRIPTION: Construction of Single Family Dwelling.

Mechanical	Date	
Floor Ducts		
Kitchen Fan Duct		
Beth Fen Duct		
Furnace		
Air Conditioning		
Electrical	Date	
Below Slab Electrical		
Below Floor Electrical		
Above Floor Electrical		
Rough Electrical		
Plumbing	Date	
Water Piping		
Gas Pipe		
Shower Pan		
Sewer Line Connection		
Water Line Connection		
Mechanical Discription		
TINAL	Date	
Mechanical		
	10/27/08	J.w.
Plumbing		



Permission to Interconnect Letter

✓ The project address matches that of the NSHP-2.

✓The letter is an official document from PG&E.

Utility Company

December 19, 2008

Martha Smith 123 Green Way Whittier, CA 90602

Subject: Authorization to Operate PV System in Parallel with Utility's Electric System

This letter is formal notification that the 9.8 kW solar system located at 123 Green Way has met all of the requirements to interconnect and operate in parallel with the utility's electric system. A copy of the executed interconnection Agreement is enclosed.

Please note that it is the customer's responsibility to make sure that their PV System is operating properly. Enclosed you will find a yellow tag to be attached to your meter. If you have any questions or need additional information, please contact our office at (000)123-4567.

Sincerely,

Words Light

Wanda Light



Certificate of Compliance (CF-4R)

- ✓ Project address matches that on the NSHP-2
- ✓ Completed and signed by the HERS rater

Œ	RTIFICATE OF FIELD VERIFICATION	* DIAGNOSTIC	TESTING (Pag	- 1 of 8)	CF-4R
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	aplance Method Prescriptive		Climate Zone		
Ci a	tifying Signature	Date	Sample House Nur	aber	
Fire	4		HERS Pevider		
Stre	M1Addmer.		Oly@tateZip:		
qde	S D. MILLOR, HERS PROVIDER AND BULLEY	G DIZASTMINT			
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	d Diagnostic Leakage Testing Results			4	No.
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2	Fan Flow: Calculated (Nominal: ✓ □ Gooling ✓ □ He Enter Tital: Fan Flow in CFM: Passif Lesings Percentage < Øi; [100 x [(Lim #1)/(Li	d m #2)]		-/ -/ □Bac□h
2	Fan Flow: Calculated (Noniral: ✓ □ Cooling ✓ □ He Ester Total Fan Flow in CFRe: Passifile single Percentage < 6%	_(Lim # 1) /(Li at Chang+Out	m #2)]		D Bac D Pa
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2	Fan Flow: Calculated (Nemins) ✓ □ Gooling ✓ □ He Hate T dad Fan Flow in CPM: Passificatings Percentage < 65. [100 x [HEA TOONS: Due t System and for HV AC Equipment Bate Tenatal Laksage Flow in CPM from CP48: Pas-	flime # 1) / fli at Change Out That of Balating Duct 8 to Duct System or Alter	ne # 2)]] lystem Prior to		O Bas O P
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2 3 AL/	Fan Flow: Galadas & (Neminal: ✓ □ Gooling ✓ □ Relitor T of Fan Flow in CPM: Part of Link Flow in CPM: Part of Link Flow in CPM: What Moons: Don't System and the RV AC Equipment Below T ended Loding Flow in CPM flown CPM: First Dart System Advantion and the First AC Equipment Below T ended Lodings Flow in CPM: Fluid T end of First Flow in Advantion and the Hamilton Charge-Cut Below T ended Lodings Flow in CPM: Fluid T end of First Flow in Advantion and the Hamilton Charge- Below T end Code (CPM) Below T end Lodings Flow in CPM to Canada (CR) is Below T end Lodings Flow in CPM to Canada (CR) is	(Line #1) / (Line #1) / (Line #1) / (Line #1) / (Line #1) Line #1 / (Line #1) Mines (Line #4) Mines (Applicable)	m # 20] lydem Prior to of Deat Sydem		O headly
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Certificate of Compliance (CF-4R-PV)

- ✓ Project address matches that on the NSHP-2
- ✓ Information should match that on the last CF-1R-PV submitted
- ✓ Completed and signed by the HERS rater

	CATION & DIAGN	OSTIC TESTING	(Pa)	je 1 of 2) CF-4R-F1
roject Address			Builder Name	
wilder Contact		Telephone	PV ID Muniter	
VERS Rater		Telephone Sample Group Number		
erbifying Signature		Care I	Certificate Muraber	
lines			HERS Provider ColCERTS, Inc.	
treet Address / Lot Number			City / State / Zip	
,			Imate Zone	
The CF-SR-IV form and all appropriate to the complete of the c	priete documente Son w	ere provided upon inspecti	o.	
HOTOVOLTAJC SYSTEM	-			
Equipment Type	CEC Certified Ma	nufacturer Name and M	odel Number	Indicate Pass/Fail
Nater (Notitein/Sinte inventor or Islant as digital under MSR.)	L			Pass Fall
Inverter (Notice and a instending that)				Pass Fall
PV Modulet: Matte serva liber in (Patrix)	1			Pass Pail
Rack-mount BIPV	Number of series modules in each siding	Revealer of sixtness in partition	Total number of mobiles	Pass Fall
	_			Value william
	Hethod u	red to determine value	Value Heasures	OF-18-PV value.
artalistica Specifications				Face Fail
netalistics Specifications Admit of the inside ion Dispute from North		1	1	Face Fall
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